

BOSCH EXTREME CCTV QUICK GUIDE



		MIC400AL Aluminium PTZ Camera	MIC400IR Infrared PTZ Camera	MIC400PA Public Address PTZ Camera	MIC400ST Stainless Steel PTZ Camera	MIC400UL/UT Underwater PTZ Camera	MIC412TI Thermal PTZ Camera	MIC440AX Explosion Protected PTZ Camera
MIC Series								
Camera Module	Image sensor	1/4 in EXview CCD	1/4 in EXview CCD	1/4 in EXview CCD	1/4 in EXview CCD	1/4 in EXview CCD	1/4 in EXview CCD	1/4 in EXview CCD
	Horizontal resolution	470 TVL NTSC / 460 TVL PAL (wide)	470 TVL NTSC / 460 TVL PAL (wide)	470 TVL NTSC / 460 TVL PAL (wide)	470 TVL NTSC / 460 TVL PAL (wide)	470 TVL NTSC / 460 TVL PAL (wide)	470 TVL NTSC / 460 TVL PAL (wide)	470 TVL NTSC / 460 TVL PAL (wide)
	Filter	Automatic mechanical IR cut filter	Automatic mechanical IR cut filter	Automatic mechanical IR cut filter	Automatic mechanical IR cut filter	Automatic mechanical IR cut filter	Automatic mechanical IR cut filter	Automatic mechanical IR cut filter
	Focus system	Auto or manual	Auto or manual	Auto or manual	Auto or manual	Auto or manual	Auto or manual	Auto or manual
	Iris	Auto or manual with slow shutter integration modes	Auto or manual with slow shutter integration modes	Auto or manual with slow shutter integration modes	Auto or manual with slow shutter integration modes	Auto or manual with slow shutter integration modes	Auto or manual with slow shutter integration modes	Auto or manual with slow shutter integration modes
	Recommended illumination	100 to 100,000 lux	100 to 100,000 lux	100 to 100,000 lux	100 to 100,000 lux	100 to 100,000 lux	100 to 100,000 lux	100 to 100,000 lux
	Signal/Noise ratio	50 dB or more	50 dB or more	50 dB or more	50 dB or more	50 dB or more	50 dB or more	50 dB or more
	Back Light Compensation (BLC)	On/Off	On/Off	On/Off	On/Off	On/Off	On/Off	On/Off
	White balance	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
	Automatic Gain Control (AGC)	-3 to -28 dB, 2 dB steps	-3 to -28 dB, 2 dB steps	-3 to -28 dB, 2 dB steps	-3 to -28 dB, 2 dB steps	-3 to -28 dB, 2 dB steps	-3 to -28 dB, 2 dB steps	-3 to -28 dB, 2 dB steps
	Aperture control	16 Steps	16 Steps	16 Steps	16 Steps	16 Steps	16 Steps	16 Steps
18x Optical Zoom Module	Lens	F=4.1 mm to 73.8 mm , F1.4 to F3.0	F=4.1 mm to 73.8 mm , F1.4 to F3.0	F=4.1 mm to 73.8 mm , F1.4 to F3.0	F=4.1 mm to 73.8 mm , F1.4 to F3.0	F=4.1 mm to 73.8 mm , F1.4 to F3.0	F=4.1 mm to 73.8 mm , F1.4 to F3.0	F=4.1 mm to 73.8 mm , F1.4 to F3.0
	Zoom	18x optical (12x digital)	18x optical (12x digital)	18x optical (12x digital)	18x optical (12x digital)	18x optical (12x digital)	18x optical (12x digital)	18x optical (12x digital)
	Angle of view	48° (wide) to 2.8° (tele)	48° (wide) to 2.8° (tele)	48° (wide end) to 2.8° (tele end)	48° (wide) to 2.8° (tele)	48° (wide) to 2.8° (tele)	48° (wide) to 2.8° (tele)	48° (wide) to 2.8° (tele)
	Minimum illumination	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)	0.7 lux (F1.4, 1/60 s NTSC, 1/50 s PAL), 0.11 lux (F1.4, 1/4 s NTSC, 1/3 s PAL), 0.01 lux or less (F1.4, 1/4 s NTSC, 1/3 s PAL, ICR ON)
	Shutter speed	1/1 to 1/10,000 s (22 steps) NTSC, PAL	1/1 to 1/10,000 s (22 steps) NTSC, PAL	1/1 to 1/10,000 s (22 steps) NTSC, PAL	1/1 to 1/10,000 s (22 steps) NTSC, PAL	1/1 to 1/10,000 s (22 steps) NTSC, PAL	1/1 to 1/10,000 s (22 steps) NTSC, PAL	1/1 to 1/10,000 s (22 steps) NTSC, PAL
36x Optical Zoom Module	Lens	F=3.4 mm to 122.4 mm, F1.6 to F4.5	F=3.4 mm to 122.4 mm, F1.6 to F4.5	F=3.4 mm to 122.4 mm, F1.6 to F4.5	F=3.4 mm to 122.4 mm, F1.6 to F4.5	F=3.4 mm to 122.4 mm, F1.6 to F4.5	F=3.4 mm to 122.4 mm, F1.6 to F4.5	F=3.4 mm to 122.4 mm, F1.6 to F4.5
	Zoom	36x optical (12x digital)	36x optical (12x digital)	36x optical (12x digital)	36x optical (12x digital)	36x optical (12x digital)	36x optical (12x digital)	36x optical (12x digital)
	Angle of view	57.8° (wide) to 1.7° (tele)	57.8° (wide) to 1.7° (tele)	57.8° (wide end) to 1.7° (tele end)	57.8° (wide) to 1.7° (tele)	57.8° (wide) to 1.7° (tele)	57.8° (wide) to 1.7° (tele)	57.8° (wide) to 1.7° (tele)
	Minimum illumination	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)	1.4 lux (1/60 s NTSC, 1/50 s PAL), 0.1 lux (1/4 s NTSC, 1/3 s PAL), 0.01 lux or less 1/4 s NTSC, 1/3 s PAL, ICR ON)
	Shutter speed	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL	1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL
Operational	Presets	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)	64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.)
	Preset tours	6 tours each with up to 32 presets	6 tours each with up to 32 presets	6 tours each with up to 32 presets	6 tours each with up to 32 presets	6 tours each with up to 32 presets	6 tours each with up to 32 presets	6 tours each with up to 32 presets
	Preset titles	20 character	20 character	20 character	20 character	20 character	20 character	20 character
Protocols	Control protocol	Bosch*, Pelco P/D or FV protocol cameras available.	Bosch*, Pelco P/D or FV protocol cameras available.	Bosch*, Pelco P/D or FV protocol cameras available.	Bosch*, Pelco P/D or FV protocol cameras available.	Bosch*, Pelco P/D or FV protocol	Bosch*, Pelco P/D or FV protocol	Bosch*, Pelco P/D or FV protocol
Alarms	Alarm inputs	1 tamper input (4 alarm inputs available via PSU)	1 tamper input (4 alarm inputs available via PSU)	1 tamper input (4 alarm inputs available via PSU)	1 tamper input (4 alarm inputs available via PSU)	1 tamper input (4 alarm inputs available via PSU)	1 tamper input (4 alarm inputs available via PSU)	1 tamper input (4 alarm inputs available via PSU)
Mechanical	Pan angle	360° continuous rotation	360° continuous rotation	360° continuous rotation	360° continuous rotation	360° continuous rotation	360° continuous rotation	360° continuous rotation
	Pan speed	Up to 90° per second (variable)	Up to 90° per second (variable)	Up to 90° per second (variable)	Up to 90° per second (variable)	Up to 90° per second (variable)	Up to 90° per second (variable)	Up to 90° per second (variable)
	Tilt angle	320°	320°	320°	320°	320°	320°	320°
	Tilt speed	0.2° to 90° per second (variable)	0.2° to 90° per second (variable)	0.2° to 90° per second (variable)	0.2° to 90° per second (variable)	0.2° to 90° per second (variable)	0.2° to 90° per second (variable)	0.2° to 90° per second (variable)
	Preset accuracy	Better than 0.08°	Better than 0.08°	Better than 0.08°	Better than 0.08°	Better than 0.08°	Better than 0.08°	Better than 0.08°
	Proportional P/T to zoom	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Construction	Construction material	6 mm thick aluminum	6 mm thick aluminum	6 mm thick aluminum	Grade 316 stainless steel	6 mm aluminium or grade 316 stainless steel	6 mm thick aluminum	Solid aluminum
	Viewing window	Tempered flat glass	Tempered flat glass	Tempered flat glass	Tempered flat glass	Tempered flat glass	Tempered flat glass	Tempered flat glass
	Standard colors	Black, Gray or White	Black, Gray or White	Black, Gray or White	Stainless steel (no color options)	Black, Gray, White or stainless steel	Black, Gray, White	Standard black
	Standard finish	Powder coated	Powder coated	Powder coated	Stainless steel (no finish options)	Powder coated Aluminium or stainless steel	Powder coated	Powder coated
	Dimensions (upright WxHxD)	205 x 360 x 165 mm	403 x 360 x 165 mm	205 x 420 x 165 mm	205 x 360 x 165 mm	205 x 360 x 165 mm	267 x 439 x 200 mm	286 x 523.6 x 189 mm
	Weight	5.5 kg (incl. PCD base)	5.5 kg (incl. PCD base)	5.5 kg (incl. PCD base)	5.5 kg (incl. PCD base)	Alu 5.5 kg; Steel 16.5 kg (incl. base)	5.5 kg (incl. PCD base)	15.5 kg (incl. PCD base)
Environmental	Operational temperature	-20 °C to +50 °C (-30 °C with opt. heater)	-20 °C to +50 °C	-20 °C to +50 °C	-30 °C to +50 °C	-30 °C to +50 °C	-30 °C to +50 °C	-20 °C to +60 °C
	Weather proofing	NEMA 4x / IP68	NEMA 4x / IP68	NEMA 4x / IP68	NEMA 4x / IP68	NEMA 4x / IP68	NEMA 4x / IP68	NEMA 4x / IP68
Certifications		-	-	-	-	-	-	ATEX Directive: 94/9/EC EC Exd IIC T6 CSA C/US Class 1, Division 1, Groups CD Class 11, Division 1, Groups EFG Temperatur Code T6
IR Illuminators	Wavelength	-	850 nm	-	-	-	-	-
	Beam angle	-	30°	-	-	-	-	-
	IR distance	-	55 m	-	-	-	-	-
	Weather proofing	-	IP68	-	-	-	-	-
	IR technology	-	Black Diamond	-	-	-	-	-
Twin Speakers	Output	-	-	6 W / 8 ohm	-	-	-	-
	Construction	-	-	Polyamide UL94 V0	-	-	-	-
	Weatherproofing	-	-	IP67	-	-	-	-
	Control	-	-	Third party amplifier	-	-	-	-
Thermal Camera Module	Lens	-	-	-	-	-	50 mm	-
	Image sensor	-	-	-	-	-	Focal Plane Array (FPA), uncooled Vanadium Oxide microbolometer 324(H) x 256(V)	-
	Picture elements	-	-	-	-	-	0.760 mrad with 50 mm lens	-
	Spatial resolution	-	-	-	-	-	14°(H) x 11°(V) with 50 mm lens	-
	Field of view	-	-	-	-	-	Factory-set at infinity focus	-
	Focus	-	-	-	-	-	780 m human detection range, 2.2 km object detection	-
	Detection range	-	-	-	-	-	7.5 to 13.5 µm	-
	Spectral response	-	-	-	-	-	85 mK at F1.6	-
	Thermal sensitivity	-	-	-	-	-	White hot, black hot and false colour	-
	Features	-	-	-	-	-	64 telemetry presets	-
	Presets	-	-	-	-	-	6 tours each with up to 32 presets	-
	Preset tours	-	-	-	-	-	-	-

* Bosch protocol requires Biphasic to RS485 converter (MIC-BP4) available separately. Other protocols supported.